

## AMENDMENTS TO THE CLAIMS

**Please amend Claim 18 as follows:**

- 1-17 (Cancelled).
18. (Currently amended) A method of preparing luminescent screens, comprising:  
providing a substrate having columns of a single-crystalline material, the single-crystalline material having a predetermined crystallization temperature;  
depositing an intermediate material on the substrate, wherein the intermediate material ~~is non-luminescent and is selected to be~~forms liquid at the crystallization temperature of the single-crystalline material; and  
depositing a luminescent material on the substrate, wherein the luminescent material is different from the intermediate material.
19. (Previously presented)The method according to Claim 18, wherein a thickness of the intermediate material is more than 10 nanometers and less than 1 micrometer.
20. (Previously presented)The method according to Claim 18, wherein the intermediate material is liquid at a contact interaction of the intermediate material with the substrate.
21. (Previously presented)The method according to Claim 18, wherein the intermediate material includes more than one chemical element.
22. (Previously presented)The method according to Claim 19, wherein the intermediate material includes more than one chemical element.
23. (Previously presented)The method according to Claim 21, wherein at least one of the chemical elements acts as a luminescent activator or co-activator.
24. (Previously presented)The method according to Claim 18, further comprising forming at least one of a predetermined structure and a predetermined chemical composition on the substrate.

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25. (Previously presented)The method according to Claim 18, further comprising forming a predetermined regular structure on the substrate.

26. (Previously presented)The method according to Claim 18, further comprising forming a predetermined structure on the substrate, wherein the structure has a crystallographically-symmetric character.

27. (Previously presented)The method according to Claim 23, wherein the activator or co-activator is introduced into the luminescent material by means of ion implantation.

28. (Previously presented)The method according to Claim 26, wherein the luminescent material is coated by a thin layer of a material transparent for electrons.

29. (Previously presented)The method according to Claim 28, wherein the transparent material includes a diamond or diamond-like material.